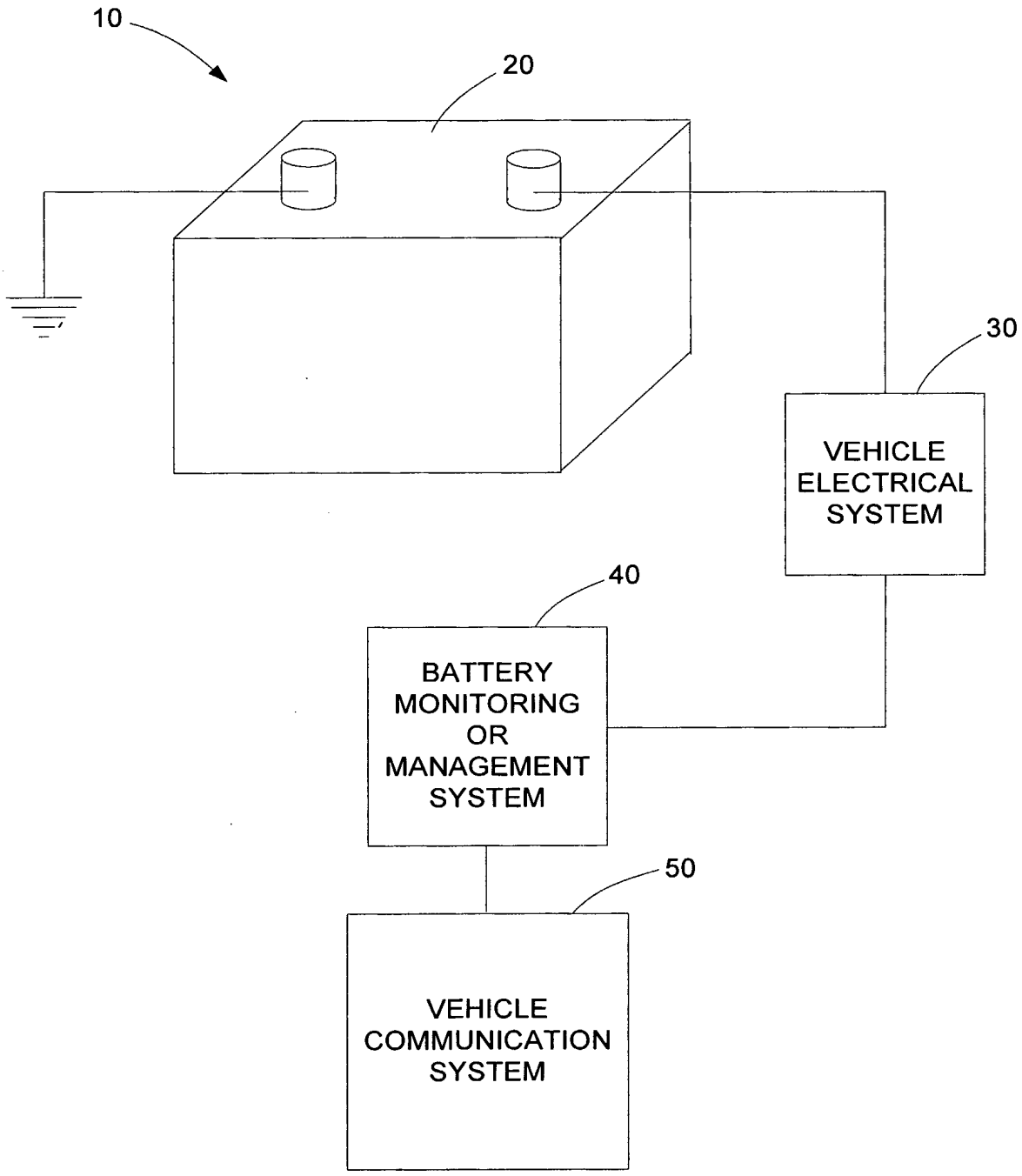
FIGURE 1


10
20
30
VEHICLE ELECTRICAL SYSTEM
40
BATTERY MONITORING OR MANAGEMENT SYSTEM
50
VEHICLE COMMUNICATION SYSTEM

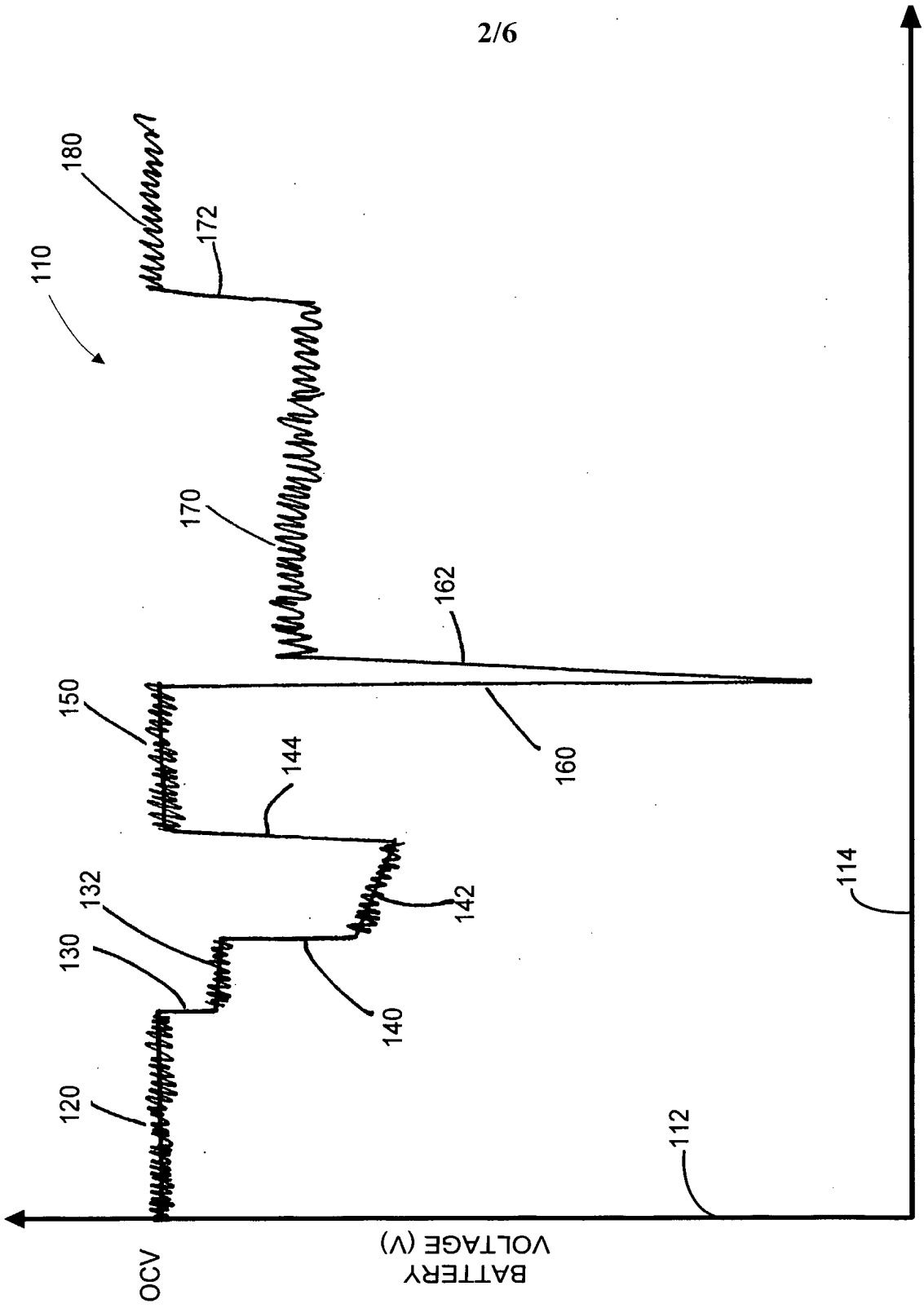

OCV
BATTERY VOLTAGE (V)
TIME
110
112
114
120
130
132
140
142
144
150
160
162
170
172
180

FIGURE 2

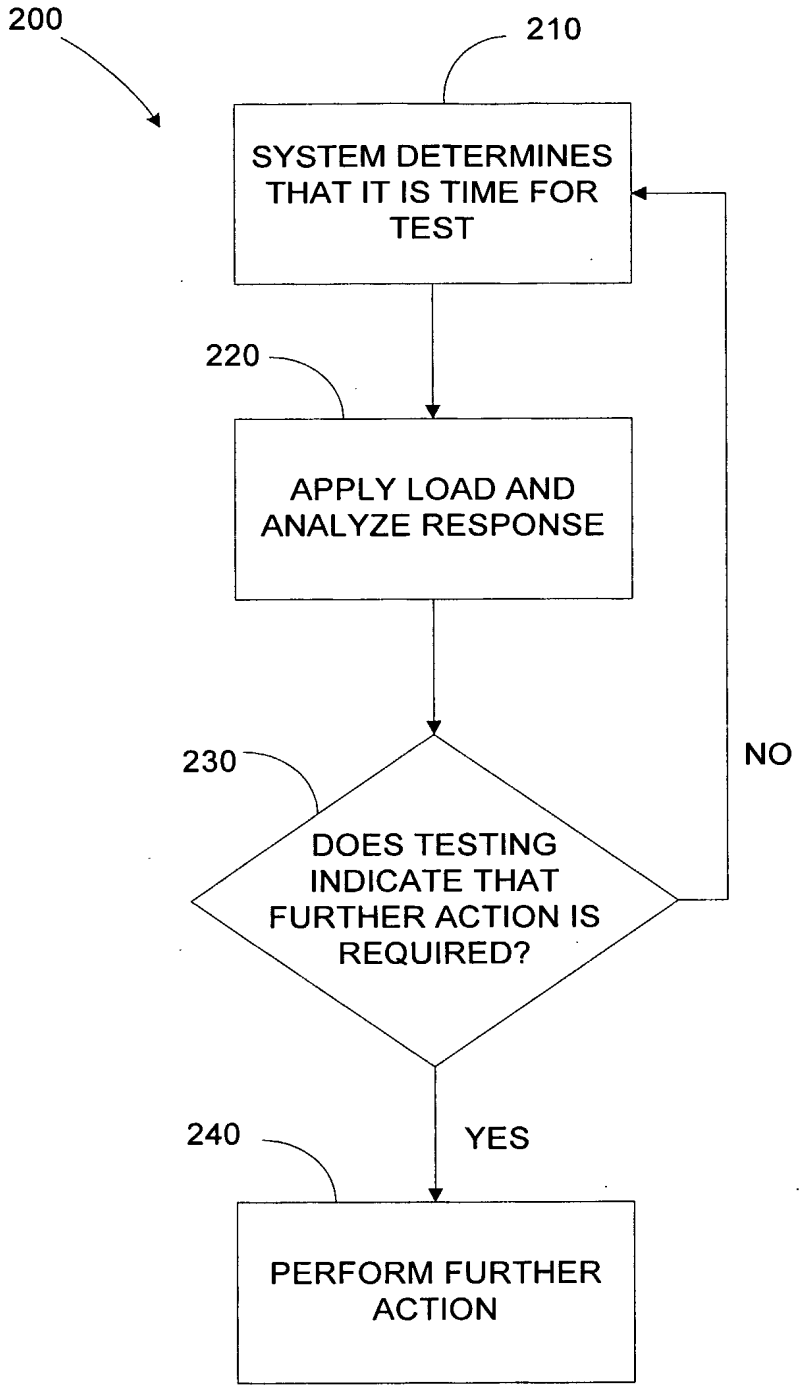

200
210
SYSTEM DETERMINES THAT IT IS TIME FOR TEST
220
APPLY LOAD AND ANALYZE RESPONSE
230
DOES TESTING INDICATE THAT FURTHER ACTION IS REQUIRED?
NO
YES
240
PERFORM FURTHER ACTION

FIGURE 3

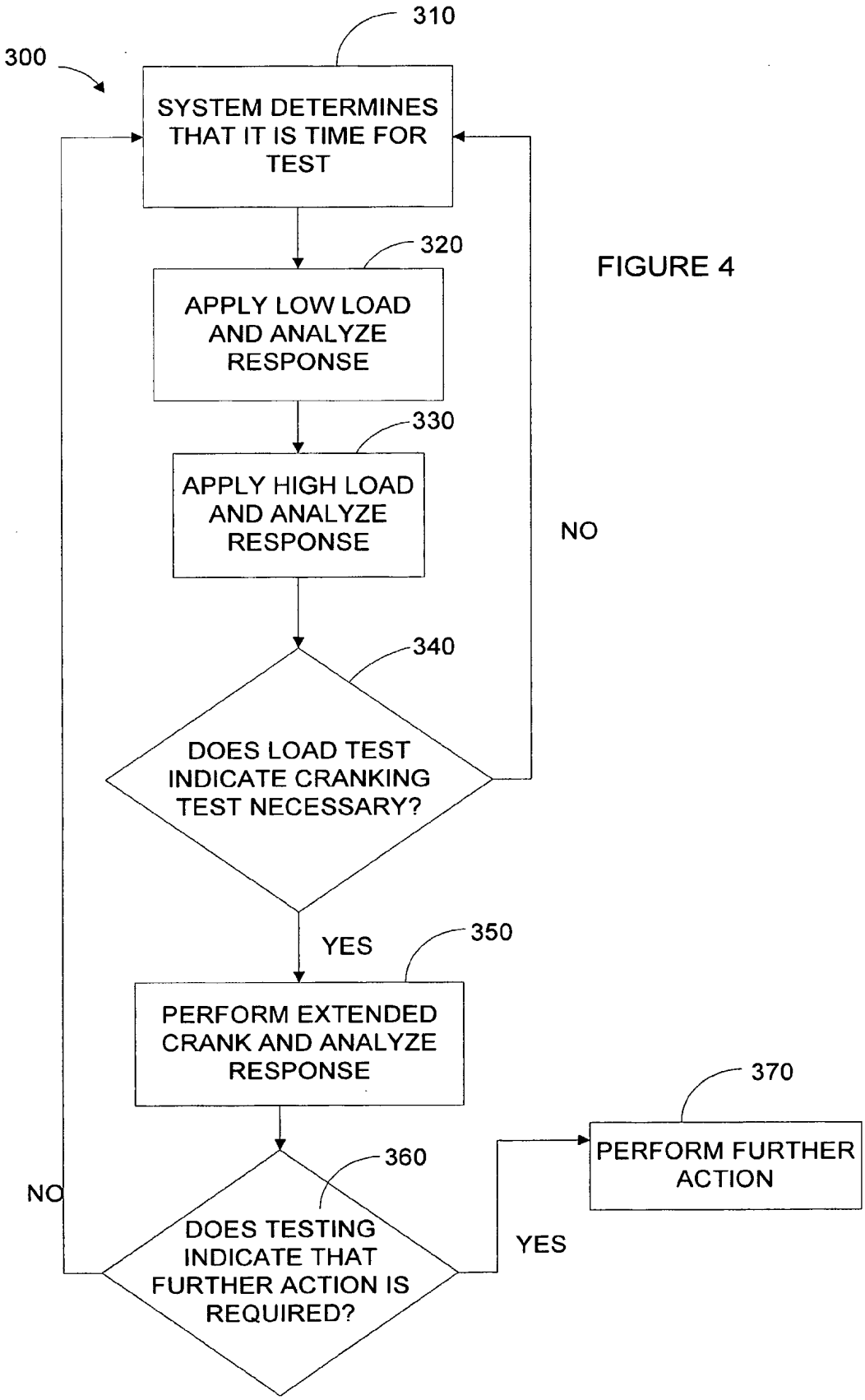

300
310
SYSTEM DETERMINES THAT IT IS TIME FOR TEST
320
APPLY LOW LOAD AND ANALYZE RESPONSE
330
APPLY HIGH LOAD AND ANALYZE RESPONSE
340
DOES LOAD TEST INDICATE CRANKING TEST NECESSARY?
NO
YES
350
PERFORM EXTENDED CRANK AND ANALYZE RESPONSE
360
DOES TESTING INDICATE THAT FURTHER ACTION IS REQUIRED?
NO
YES
370
PERFORM FURTHER ACTION

FIGURE 4

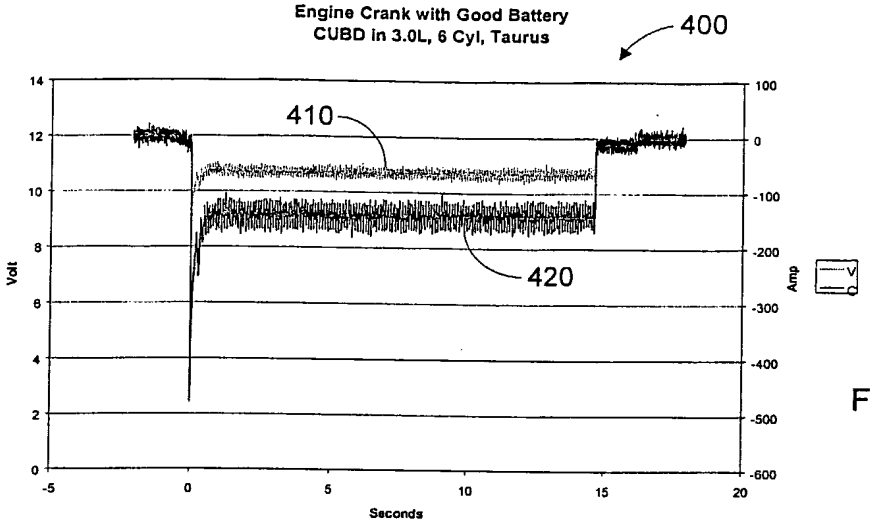


FIGURE 5

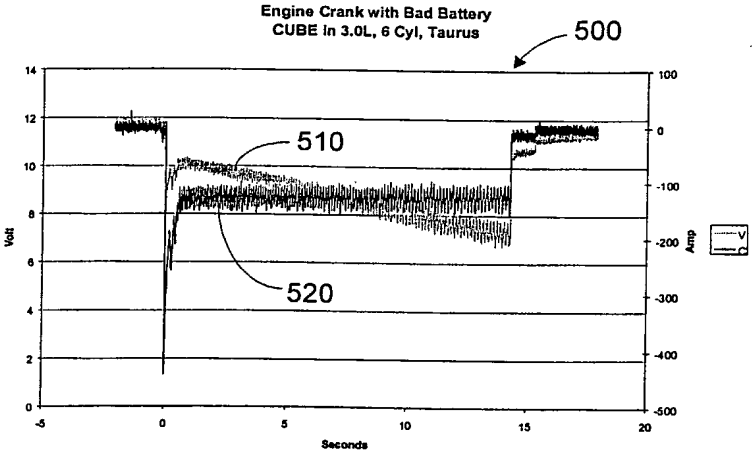


FIGURE 6

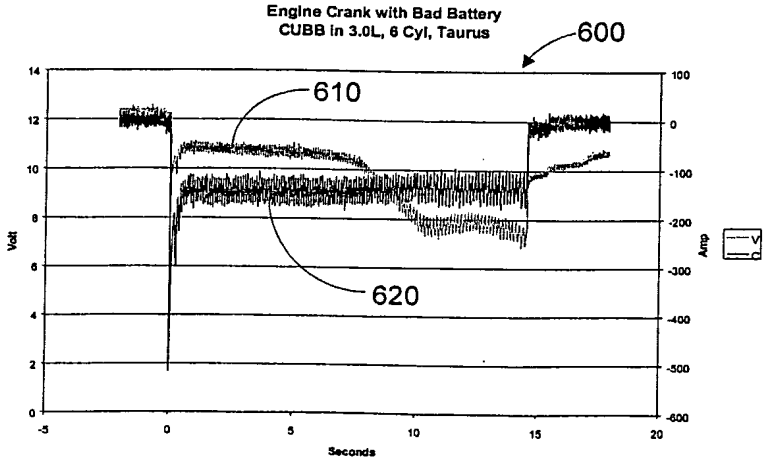


FIGURE 7

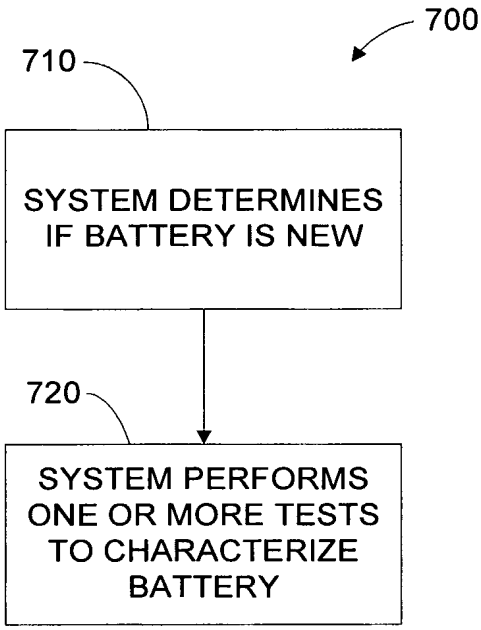

700
710
SYSTEM DETERMINES IF BATTERY IS NEW
720
SYSTEM PERFORMS ONE OR MORE TESTS TO CHARACTERIZE BATTERY

FIGURE 8